UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/753,363	01/02/2001	Zoran Obradovic	B-094	1685

7590	07/01/2004

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EXAMINER
HAMILTON, MONPLAISIR G

ART UNIT	PAPER NUMBER
2135	

DATE MAILED: 07/01/2004

16

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)
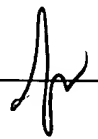
-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 April 2004*.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-7 and 10-25* is/are pending in the application.

     4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *1-7 and 10-15* is/are allowed.

6)☒ Claim(s) *16-25* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

     a)☐ All   b)☐ Some * c)☐ None of:

       1.☐ Certified copies of the priority documents have been received.

       2.☐ Certified copies of the priority documents have been received in Application No. _____.

       3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

     * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
     Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
     Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

1.   Claims 1-7 and 10-25 remain for examination.

Response to Arguments

2.   Applicant's arguments, see Paper No. 14, filed 4/12/04, with respect to Claims 1-

7 and 10-25 have been fully considered and are persuasive. The rejection of Claims 1-7,

10, 11 and 15 has been withdrawn.

Applicant's arguments filed 4/12/04, with respect to Claims 16-25 have been fully

considered but they are not persuasive.

Applicants argue: *"Applicants submit that any proposed combination of the Busche reference, the Hauwiller reference and the Kohavi reference does not teach or suggest portions of the claim limitations calling for "using the estimation of the; predetermined parameter to accomplish a predetermined purpose, wherein the predetermined purpose includes at least one of determining how the predicted variable affects a predetermined target variable, **providing recommendations as to how to achieve a predetermined target variable, and creating new spatial data mining methods. "***

*Hauwiller teaches, "recommendation equations or application rate equations are formulas which express the relationship between existing field conditions and desired output. The expert system 216 may utilize pre-defined recommendation equations as illustrated by block 226 or user specified recommendations as indicated by block 208b for correlating desired data relative to desired output" (col. 9, lines 16-22). Both "predefined recommendation equations" and "user specified recommendations" suggests a priori development of the recommendations. As a result, Hauwiller would suggest against, or at least lead away from, "using the estimation of predetermined parameters to . . . provide recommendations as to how to achieve a predetermined target variable." In other words, the prior art suggests using pre-defined recommendations **rather than the present inventions claim of generating** recommendations as to how to achieve: a target variable as part of the result of the spatial data mining process. "*

Examiner maintains that Hauwiller discloses the claimed "providing

recommendations as to how to achieve a predetermined target. As noted by applicant

Hauwiller discloses the that a user provides the recommendations. The claimed system

does not specifically state who or what provides the recommendations. Therefore,

Examiner maintains that the claimed invention is unpatentable. Additionally, Hauwiller

discloses that the user or expert system provides the recommendations (col 3, lines 60-

68).

Furthermore, in response to applicant's argument that the references fail to show

certain features of applicant's invention, it is noted that the features upon which applicant

relies (i.e., **generating** recommendations, **creating new spatial data mining methods**) are not

recited in the rejected claim(s). Although the claims are interpreted in light of the

specification, limitations from the specification are not read into the claims. See *In re*

Van Geuns, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Applicants further argue: *"Applicants can find nothing in the cited references of Hauwiller, Busche, or Kohavi, teaching, "using the estimation of the predetermined parameter to accomplish a predetermined purpose, wherein the predetermined purpose includes at least one of determining how the predicted variable affects a predetermined target value . . .."."*

Applicant's claimed limitation of "using the estimation of ..." is presented in

alternative form. Examiner has meet the limitation of at least one alternative, specifically

the claimed "providing recommendations". Therefore, examiner maintains that the

Claimed invention is unpatentable.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be

found in a prior Office action.

3.   Claims 16-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over US

6430547 issued to Busche et al, herein referred to as Busche and US 6236907 issued to

Hauwiller et al, herein referred to as Hauwiller in view of US 6026399 issued to Kohavi

et al, herein referred to as Kohavi.

Referring to Claim 16 and 22:

Busche discloses a system a networked computer system that includes a client and

a server (col 3, lines 24-26), wherein the server maintains spatial data sets (Fig 4, col 2,

lines 19-21; col 6, lines 10-15), a method for analyzing the spatial data sets over the

network (col 10, lines 15-18), the method comprising the steps for: classifying the spatial

data sets into predetermined classes (col 8, lines 58-62).

Busche does not explicitly disclose "applying spatial data mining functions to the

spatial data sets, the spatial data sets generated using identified attributes selected by a

user, wherein said spatial data mining functions comprise the steps for modeling the

spatial data sets to provide estimation of predetermined parameters at predetermined

points; and using the estimation of the predetermined parameter to accomplish a

predetermined purpose, wherein the predetermined purpose includes at least one of

determining how the predicted variable affects a predetermined target variable, providing

recommendations as to how to achieve a predetermined target variable".

Hauwiller discloses using an expert system (data mining system) to generate

application maps based on field data and the relationship to the desired output (col 4,

lines 36-40). The system further generates treatment reports in addition to the

applications maps (col 4, lines 48-52). Hauwiller further states that user instructions are

used to determine what information is retrieved when generating the reports and maps

(col 4, lines 23-26) and the instructions are entered using a user interface (col 1, lines 65-

67; col 4, lines 5-35).

Busche in view of Hauwiller do not explicitly disclose, "the spatial data sets

generated using identified attributes selected by a user".

Kohavi discloses the spatial data sets generated using identified attributes

selected by a user (col 4, lines 60-65).

At the time the invention was made, it would have been obvious to a person of

ordinary skill in the art to employ the user-attribute selection, pre-processing and

statistical analysis disclosed by Busche and Kohavi in Hauwiller's system. One of

ordinary skill in the art would have been motivated to do this because it would allow the

user to determine optimum fertilization levels (col 1, lines 35-40).

Referring to Claim 23:

Busche discloses an environment including spatial data relating to a specific

agricultural field (col 9, lines 60-65), a method for analyzing the spatial data comprising

steps for: classifying the spatial data sets into predetermined classes (col 8, lines 58-62).

Busche does not explicitly disclose "applying spatial data mining functions to the

spatial data, wherein said spatial data mining functions comprise the steps for modeling

the spatial data to provide estimation of predetermined parameters at predetermined

points; using the results of the spatial data analysis to optimize the treatment of the

agricultural field to produce a predetermined yield.

Hauwiller discloses using an expert system (data mining system) to generate

application maps based on field data and the relationship to the desired output (col 4,

lines 36-40). The system further generates treatment reports in addition to the

applications maps (col 4, lines 48-52). Hauwiller further states that user instructions are

used to determine what information is retrieved when generating the reports and maps

(col 4, lines 23-26) and the instructions are entered using a user interface (col 1, lines 65-

67; col 4, lines 5-35). Optimization of the yield is also performed by Hauwiller's system

(col 1, lines 22-25; 35-38).

At the time the invention was made, it would have been obvious to a person of

ordinary skill in the art to employ the data mining techniques disclosed by Busche in

Hauwiller's system. One of ordinary skill in the art would have been motivated to do this

because it would allow the user to determine optimum fertilization levels (col 1, lines 35-

40).

Referring to Claim 17:

Busche and Kohavi in view of Hauwiller disclose the limitations as discussed in

Claim 16 above. Busche further discloses the step for combining different programming

environments to allow different programming environments to function on one server

(Fig 8; col 5, lines 5-10).

Referring to Claim 18:

Busche and Kohavi in view of Hauwiller disclose the limitations as discussed in Claim 17

above. Busche further discloses the step for combining different programming

environments comprises a unified controller (col 5, lines 5-10).

Referring to Claim 19:

Busche and Kohavi in view of Hauwiller disclose the limitations as discussed in Claim 16

above. Busche further discloses the spatial data set is generated by a spatial data

simulator (col 8, lines 35-45).

Referring to Claim 20:

Busche and Kohavi in view of Hauwiller disclose the limitations as discussed in Claim 16

above. Busche further discloses said spatial data mining functions further comprise the

step for partitioning said data set into more homogenous portions (col 8, lines 58-62).

Referring to Claim 21:

Busche and Kohavi in view of Hauwiller disclose the limitations as discussed in Claim 16

above. Busche further discloses said spatial data mining functions further comprise the

step for integrating said modeling and classifications steps (Fig 4; col 8, lines 1-5; col 10,

lines 20-25).

Referring to Claim 24:

Busche and Kohavi in view of Hauwiller disclose the limitations as discussed in Claim 23 above. Hauwiller further discloses said spatial data consists of past and present data of a specific agricultural field (col 6, lines 62-65).

Referring to Claim 25:

Busche and Kohavi in view of Hauwiller disclose the limitations as discussed in Claim 23 above. Busche further discloses the step for applying spatial data mining functions occurs in a network environment (col 3, lines 20-26).

Allowable Subject Matter

4.   Claims 1-7 and 10-15 allowed.

        The following is an examiner's statement of reasons for allowance: the prior art does not fairly teach or suggest the claimed **"partitioning the spatial data into a training set and at least one modeling set** wherein the act of partitioning is selected from the group consisting of: **selecting the training set such that the training set comprises a substantially homogenous spatial relationship** to the at least one modeling set, and **selecting the training set such that the training set comprises a substantially separate spatial relationship** to the at least one modeling set".

        Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably

accompany the issue fee. Such submissions should be clearly labeled "Comments on

Statement of Reasons for Allowance."

Final Rejection

5.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of

time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the

advisory action. In no event, however, will the statutory period for reply expire later than

SIX MONTHS from the mailing date of this final action.

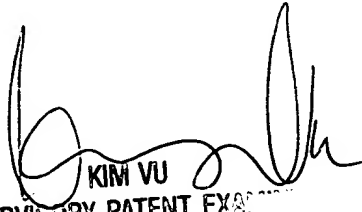## *Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Monplaisir G Hamilton whose telephone number is (703) 305-5116. The examiner can normally be reached on Monday - Friday (8:00 am - 4:30 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Y Vu can be reached on (703) 305-4393. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Monplaisir Hamilton

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